UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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ART UNIT	PAPER NUMBER
2165	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/797,669	GUPTA ET AL.
	Examiner	**Art Unit**	
	Mark A. X Radtke	2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 March 2007*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-47* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Remarks

1.   In response to communications filed on 15 March 2007, claim(s) 1-2, 13, 16-19

and 27 is/are amended, and new claim(s) 33-47 is/are added per Applicant's request.

Therefore, claims 1-47 are presently pending in the application, of which, claim(s) 1, 13,

19, 27, 33 and 42 is/are presented in independent form.

2.   In light of Applicant's amendments to the specification, the objection to the

specification has been withdrawn.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.
>   *27-32 + 42-47*

4.   Claims 1-47 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter. The claims are directed towards computer

software *per se* and so are non-statutory. To be patentable, computer software claims

must be tangibly embodied on hardware and produce a tangible result.

5.   Claims 27-32 and 42-47 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter. Method claims must produce a

useful, concrete and tangible result. The result of "executing a command" is intangible because it only invokes a computer program and such an operation is undetectable by the user. "Executing a command" does not necessarily remove a result from the processor into the real world. Applicant argues that managing a clustered storage system implies hardware. Examiner disagrees because "managing" is an abstract operation and the claims do not require hardware, merely that a command is invoked that *may* result in a change in hardware. However, as written, the claims require no tangible hardware or other result; no cluster is implied or stated in the claims, merely an intended use within a clustered system.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7.   Claims 1-4, 6-22, 23-36 and 38-47 are rejected under 35 U.S.C. 102(b) as being anticipated by Blumenau (U.S. Pat. No. 6,421,711).

As to claim 1, Blumenau teaches a system configured to simplify management of a clustered storage system having a plurality of failover modes (see Abstract), the system comprising:

a user interface system that defines one of a plurality of failover modes (see

columns 28-31, "Graphical User Interface for Virtual Ports" and see column 34, line 60 –

column 35, line 6); and

a command set implemented by the user interface system and including a

command for setting a cluster mode (see column 33, lines 29-52).

As to claims 2, 34 and 43, Blumenau teaches wherein the user interface system

comprises a command line interface (CLI) configured to support the command set (see

columns 28-31, "Graphical User Interface for Virtual Ports").

As to claims 3, 20-21 and 35, Blumenau teaches wherein the command set

further comprises an igroup command that determines whether a set of initiators may

utilize data access command proxying (see columns 12-21, "Storage Volume

Partitioning by Named Groups", where "initiators" is read on "hosts").

As to claims 4, 22 and 36, Blumenau teaches wherein the set of initiators

comprises at least one fibre channel world wide name (see figure 5, column "Host

Controller WWN" and see also column 13, lines 33-34, "host controller port WWN").

As to claims 6 and 38, Blumenau teaches wherein the igroup command sets an

igroup option to determine whether members of a set of initiators may use a partner port

for proxying data access command (see column 15, lines 34-60 and see column 2, line

56 – column 3, line 18).

As to claims 7 and 11, <u>Blumenau</u> teaches wherein the command set further

comprises a cfmode command that sets a cluster mode for the clustered storage

system (see column 12, line 65 – column 13, line 6).

As to claims 8, 14, 24, 28, 39 and 45, <u>Blumenau</u> teaches wherein the cluster

mode enables the clustered storage system to proxy data access requests received by

a first storage system in the clustered storage system to a second storage system in the

clustered storage system (see column 15, lines 34-60 and see column 2, line 56 –

column 3, line 18 and see column 17, line 9 – column 18, line 5 and see column 10,

lines 16-51).

As to claims 9, 15, 25, 29, 40 and 46, <u>Blumenau</u> teaches wherein the cluster

mode enables a first storage system in the clustered storage system to assume an

identity of a second storage system in the clustered storage system (see column 11,

lines 31-56).

As to claims 10, 26, 41 and 47, <u>Blumenau</u> teaches wherein the cluster mode

enables proxying of data access requests received by a first storage system in the

clustered storage system to a second storage system in the clustered storage system

and further enables the first storage system to assume an identity of the second storage system (see column 15, lines 34-60 and see column 2, line 56 – column 3, line 18 and see column 17, line 9 – column 18, line 5 and see column 10, lines 16-51 and see column 11, lines 31-56).

As to claims 12, 16-18, 30-32 and 44, Blumenau teaches wherein the user interface system further comprises a graphical user interface having functionality to implement the command set (See columns 28-31, "Graphical User Interface for Virtual Ports". The phrase "having functionality to" renders the rest of the claim as intended use because the limitations are not positively recited. The limitation of "to implement the command set" will not be given patentable weight, although it is taught by Blumenau.).

As to claim 13, Blumenau teaches a method for simplifying management of a clustered storage system having a plurality of failover modes (see Abstract), comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 7 above.

As to claim 19, Blumenau teaches a system adapted to simplify management of a clustered storage system having a plurality of failover modes (see Abstract), the system comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 2 above.

As to claim 27, <u>Blumenau</u> teaches a computer readable medium, including

program instructions executing on a computer, for simplifying management of a

clustered storage system having a plurality of failover modes (see Abstract), the

computer readable medium including instructions for performing the steps of:

For the remaining steps of this claim applicant(s) is/are directed to the remarks

and discussions made in claim 7 above.

As to claim 33, <u>Blumenau</u> teaches a system (see Abstract), comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks

and discussions made in claim 1 above.

As to claim 42, <u>Blumenau</u> teaches a method (see Abstract), comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks

and discussions made in claim 13 above.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

9.   Claims 5, 23 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Blumenau, as applied to claims 3, 21 and 35, further in view of Clark ("IP SANs: A

Guide to iSCSI, iFCP, and FCIP Protocols for Storage Area Networks", Published 26

November 2001, Section 8.5, "Internet SCSI").

As to claims 5, 23 and 37, Blumenau teaches wherein the set of initiators

comprises one or more identifiers (see columns 9-11, "WWN").

Blumenau does not explicitly teach wherein the identifiers are iSCSI identifiers.

Clark teaches wherein the identifiers are iSCSI identifiers (see pages 2-4, "iSCSI

Address and Naming Conventions").

Therefore, it would have been obvious to one of ordinary skill in the relevant art

at the time the invention was made to have modified Blumenau by the teaching of Clark

because iSCSI is a well-known alternative to Fibre Channel technology and "the iSCSI

specification allows for a lower functional level on top of IP to provide services such as

IPSec data encryption" (see page 2, section 8.5.2, paragraph 2).

Response to Arguments

10.   Applicant's arguments filed on 15 March 2007 with respect to the rejected claims

in view of the cited references have been fully considered but are not deemed

persuasive.

In response to Applicant's arguments that the claimed invention produces a useful, concrete and tangible result, the arguments have been fully considered but are not deemed persuasive. The fact that a user cannot see what the computer is doing was stated to generally illustrate the intangible nature of the invention. Examiner maintains that "executing a command" does not require that a result is taken out of the processor into the real world. A processor may do a context switch without storing anything in memory, displaying it to a user, or otherwise producing a tangible result. Invoking behavior on an external piece of hardware (i.e., a clustered storage system) may be tangible, but the claimed invention does not require such a system. See Examiner's comments above regarding 35 U.S.C. 101 rejections.

In response to Applicant's arguments that <u>Blumenau</u> does not teach "a command set implemented by the user interface system and including a command for setting a cluster mode", the arguments have been fully considered but are not deemed persuasive. Specifically, <u>Blumenau</u> fails to disclose "a command for setting a cluster mode, where the cluster mode defines the failover mode to be used." Examiner respectfully disagrees. See columns 34-35, spanning paragraph: "***To respond to a failure condition***, the storage subsystem could be programmed to respond [...] by checking the access table or tables for any volume group names corresponding to the host". <u>Blumenau</u> teaches setting cluster modes using a GUI (see columns 28-31, "Graphical Interface for Virtual Ports"). <u>Blumenau</u> teaches setting "[...] the ***paths*** or adapter ports and virtual port through which the host controller ports can access the

logical storage volume" (see column 29, lines 51-65). Since various paths may be defined, if one of the paths fails (due to, e.g., a hardware failure), an alternative path may be used. Blumenau also explicitly teaches failover configurations (see column 6, lines 45-47).

Conclusion

11.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12.   Any inquiry concerning this communication or earlier communications should be directed to the examiner, Mark A. Radtke. The examiner's telephone number is (571) 272-7163, and the examiner can normally be reached between 9 AM and 5 PM, Monday through Friday.
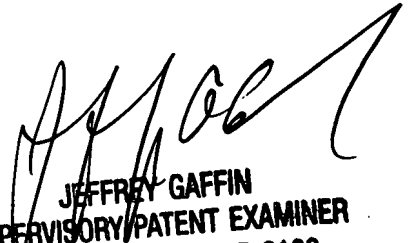
If attempts to contact the examiner are unsuccessful, the examiner's supervisor,

Jeffrey Gaffin, can be reached at (571) 272-4146.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to Customer Service at (800) 786-9199.

maxr
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10 June 2007

JEFFREY GAFFIN
SUPERVISORY/PATENT EXAMINER
TECHNOLOGY CENTER 2100